IN THE CLAIMS:

The status of the claims is as follows:

1. (Currently amended): A process for the removal of contaminants from a surface of a substrate requiring precision cleaning, comprising ~~the steps of~~: (a) applying at least one fluid to the substrate surface, the fluid selected from the group consisting of a high vapor pressure liquid, a reactive gas, and vapor of a reactive liquid; and (b) cryogenically cleaning the surface of the substrate.

2. (Currently amended): The process of claim 1 wherein ~~steps a) and b)~~ (a) and (b) are carried out simultaneously.

3. (Currently amended): The process of claim 1 wherein ~~steps a) and b)~~ (a) and (b) are carried out sequentially.

4. (Original): The process of claim 1 wherein the at least one fluid is a high vapor pressure liquid selected from the group consisting of ethanol, acetone, ethanol-acetone mixtures, isopropyl alcohol, methanol, methyl formate, methyl iodide, ethyl bromide, acetonitrile, ethyl chloride, pyrrolidine, tetrahydrofuran and mixtures thereof.

5. (Original): The process of claim 1 wherein the at least one fluid is a vapor of a reactive liquid selected from the group of liquids consisting of ethanol, acetone, ethanol-acetone mixtures, isopropyl alcohol, methanol, methyl formate, methyl iodide, ethyl bromide, and mixtures thereof.

6. (Currently amended): The process of claim 1 wherein the at least one fluid is a reactive gas selected from ~~one or more of~~ the group consisting of ozone, water vapor, hydrogen, nitrogen, nitrogen oxides, nitrogen triflouride, helium, argon, neon, sulfur trioxide, oxygen, fluorine, fluorocarbon gases and mixtures thereof.

7. (Original): The process of claim 1 wherein the at least one fluid is a reactive gas or vapor selected from the group consisting of isopropyl alcohol, ethanol-acetone mixtures, methanol, ozone, water vapor, nitrogen triflouride, sulfur trioxide, oxygen, fluorine and fluorocarbon gases, and mixtures thereof.

8. (Currently amended): The process of claim 1 wherein the fluid remains in contact with the surface for up to 10 minutes prior to the ~~initiation of~~ cryogenic cleaning.

9. (Currently amended): The process of claim 8 wherein the fluid remains in contact with the surface for less than 2 minutes prior to the ~~initiation of~~ cryogenic cleaning.

10. (Original): The process of claim 1 wherein the contaminants are less than 0.76 μm in size.

11. (Original): The process of claim 1 wherein the contaminants are less than 0.13 μm in size.

12. (Original): The process of claim 1 wherein the high vapor pressure liquid has a vapor pressure greater than about 5 kPa at 25°C, and a freezing point below about -50°C.

13. (Original): The process of claim 1 wherein the high vapor pressure liquid has a dipole moment of greater than about 1.5 D.

14. (Currently amended): The process of claim 1 wherein the high vapor pressure liquid remains on the surface in a layer of at least 5 Δ for less than 10 minutes and preferably less than 2 minutes prior to the ~~initiation of~~ cryogenic cleaning.

15. (Currently amended): The process of claim 4 ~~wherein the process includes the further~~ ~~step of~~ further comprising the high vapor pressure liquid removing bulk water from the substrate surface.

16. (Original): The process of claim 1 wherein the substrate surface is a semiconductor, metal or dielectric film.

17. (Currently amended): The process of claim 1 wherein the at least one fluid is a reactive gas or vapor which reacts with the contaminants on the surface to form a volatile gaseous byproduct; and further comprising ~~the steps of~~: maintaining the reactive gas or vapor in contact with the surface for up to 20 minutes, and removing the gaseous ~~byproducts~~ byproduct [[,]] prior to the ~~initiation of~~ cryogenic cleaning.

18. (Currently amended): The process of claim 17 wherein the reactive gas or vapor is introduced in a chamber containing the substrate, under low pressure and/or at temperatures of up to ~~200EC~~ 200°C.

19. (Currently amended): The process of claim 18 wherein removing the ~~byproducts~~ byproduct comprises purging the chamber with nitrogen or ~~Clean Dry Air~~ clean dry air.

20. (Original):The process of claim 17 wherein the reactive gas or vapor is applied to the surface in the presence of a free radical initiator to generate reactive chemical byproducts from the reactive gas or vapour and the contaminants.

21. (Currently amended): The process of claim 20 wherein the free radical initiator is selected from the group consisting of ultraviolet light, x-ray, laser, corona discharge, ~~or~~ and plasma.